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February 4, 2003

Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, Room 1061
Rockville, MD 20852

Re: Docket No. 02N-0273 – Substances Prohibited From use in Animal Food Or Feed; Animal Proteins Prohibited in Ruminant Feed; Advance Notice of Proposed Rulemaking [Federal Register: November 6, 2002 (Volume 67, Number 215)] [Proposed Rules] [Page 67572-67573]

Dear Sir/Madam:

As animal scientists involved in research and education regarding agricultural animals, the Federation of Animal Science Societies (FASS) is very concerned about the animal food product safety, as impacted by emerging animal diseases. Therefore, the FASS Committee on Food Safety, Animal Drugs and Animal Health submits these attached comments regarding the ANPR on the BSE feed rule. We will restrict our comments to the areas concerning animal feeding and nutrition.

We ask that FDA take our comments seriously as you proceed. FASS scientists stand ready to interpret existing and new scientific information and to provide technical and scientific information through research and education. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

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February 4, 2003
Comments of the Federation of Animal Science Societies
FASS Committee on Food Safety, Animal Drugs and Animal Health

Docket No. 02N-0273
Substances Prohibited From use in Animal Food Or Feed; Animal Proteins
Prohibited in Ruminant Feed

Advance Notice of Proposed Rulemaking
[Federal Register: November 6, 2002 (Volume 67, Number 215)]
[Proposed Rules] [Page 67572-67573]

Introduction

The Federation of Animal Science Societies (FASS) is a professional organization made up of approximately 8,000 scientists in academia, government and industry which exists to serve society through the improvement of all aspects of food animal production. FASS represents the combined membership of the American Society of Animal Science, the American Dairy Science Association, and the Poultry Science Association.

The FASS submits these comments on animal nutrition and feeding issues presented in the ANPR. We hope that the FDA will consider our comments seriously as you proceed.

General Comments

As animal scientists, our primary mission is to support the production of animal food products that are safe, healthful and nutritious for human consumption. Our goal is to assist in protecting the United States from an outbreak of bovine spongiform encephalopathy (BSE). Due to science-based regulatory steps taken by the Food and Drug Administration, that goal has been successfully achieved, because there has not been one confirmed case of BSE in the United States.

Two comprehensive reviews have been published recently. First, the Harvard Risk Analysis (2001, <http://frwebgate.access.gpo.gov/cgi-bin/leaving.cgi?from=leavingFR.html&log=lin>) evaluated the various risks and potential pathways for exposure of U.S. cattle to the BSE agent. The report concluded that due to control measures already in place, the risk to US cattle and to U.S. consumers from BSE is very low. The report states that the U.S. is highly resistant to any introduction of BSE or a similar disease. Also, it stated that BSE is extremely unlikely to become established in the U.S. (Harvard, 2001).

FASS supports science-based regulations. Changes to a successful regulatory approach must be based on scientific justification. However, we also support that as new scientific information becomes available, it is essential that the regulations be reviewed and revised, if appropriate.

Based on our recent review of the published research on the feeding of poultry litter to beef cattle, **FASS concludes that there is no scientific basis to indicate that feeding of ruminant proteins to poultry will measurably increase the risk of BSE being contracted by cattle.** FASS concludes that the practice of feeding ruminant protein to poultry and use of poultry litter as a feedstuff does not represent a significant break in the feed regulations. Therefore, no new regulatory requirements are needed.

Specific Comments

1. **FASS supports the statement of Dr. J.P. Fontenot, Professor, Virginia Tech University, (enclosed)** that was presented at the FDA Public Hearing, Kansas City, MO, October 30, 2001, on animal feeding regulation “Animal Proteins Prohibited in Ruminant Feed,” Code of Federal Regulations, Title 21, Part 589.2000. Dr. Fontenot reviewed the scientific literature regarding the nutritional value of poultry litter and safety aspects of feeding poultry litter to beef cattle.
2. The ANPR posed four questions regarding the “Use of Poultry Litter in Cattle Feed.”
 - a. **How extensive is the use of poultry litter in cattle feed in the United States?**– A reasonable estimate would be that 25% of the poultry litter produced is fed to beef cattle. Since there are 8 million tons produced per year, this would amount to 2 million tons of poultry litter fed per year. Most of the poultry litter is fed to beef cows with limited amounts fed to stocker cattle in the weight range of 500-750 pounds. Very little poultry litter is fed to finishing cattle, or cattle that are reaching slaughter weights of 1000-1200 pounds. Beef cow diets may contain 25 to 70% poultry litter as a percent of the diet dry matter.
 - b. **What is the level of feed spillage in poultry litter?**– The information that we have been able to obtain indicate that the maximum amount of feed spillage would be 1%. Broiler diets may contain 0 to 5% ruminant proteins (as a percent of the diet dry matter). Therefore, with a very limited proportion of ruminant protein in the broiler diet, coupled with only 1% total spillage of total feed into the litter, the total spillage of poultry litter would be extremely low.

- c. **What are the methods used to process poultry litter before inclusion in animal feed?**– The main methods used for processing are deep stacking, ensiling, and dehydration, with or without pelleting. All of these have been shown to be effective at destroying pathogens.
- d. **What will be the adverse and positive impacts (economic, environmental, health, etc.) resulting from banning poultry litter in ruminant feed?**
Economic impact – The difference in value between using poultry litter as a feed (\$100 per ton) and fertilizer (\$30 per ton) would be \$70 per ton. For the poultry industry, this would amount to \$140 million per year benefit from feeding compared to soil application.
Environmental – Feeding would enhance the environment compared to soil applications since it would prevent excess soil application of the poultry litter.
Health aspects – There are no health problems from feeding poultry litter. Processing of the litter destroys the pathogens. There have been no heavy metal, pesticide or drug residues in edible tissues from beef cattle fed poultry litter.
3. The FDA addressed the question concerning BSE in feeding poultry litter in July, 1998, (2) Code of Federal Regulations (CFR) 589.2000 in Guidance for Industry #76. At that time, FDA responded to the question, Can chicken litter be fed to cattle if the poultry might have been fed prohibited material?
- FDA responded with “Yes. The FDA has no evidence that the agent that causes BSE would survive the chicken intestinal tract. FDA expects the states to require recycled animal waste to conform to the definitions promulgated by the Association of American Feed Control Officials (AAFCO) as published in its official publication and as described in its ‘Model Regulations for Processed Animal Waste Products as Animal Feed Ingredients.’ Under the AAFCO Model Regulation, in order for this product to be used in a commercial feed, it must be registered/licensed within a State, and be assayed periodically for Salmonella and E. coli bacteria, heavy metals, pesticides, drugs, parasitic larva or ova and mycotoxins.”
FASS supports the statement of FDA in 1998, and knows of no scientific data to suggest a change in the accuracy of that statement.
4. **FASS concludes that there is no scientific basis to indicate that feeding of ruminant proteins to poultry will measurably increase the risk of BSE being contracted by cattle.** FASS concludes that the practice of feeding ruminant protein to poultry and use of poultry litter as a feedstuff does not represent a significant break in the feed regulations. Therefore, no new regulatory requirements are needed.

Enclosure

UTILIZATION OF POULTRY LITTER AS FEED FOR BEEF CATTLE^a

**Joseph P. Fontenot
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My comments will be concerning nutritional value of poultry litter and safety aspects of feeding poultry litter to beef cattle. I have conducted research on feeding poultry litter since 1963. I am well informed concerning the research conducted by other scientists also. I am an animal nutritionist.

Poultry litter includes excreta, bedding, wasted feed and feathers. Bedding may consist of wood shavings, sawdust, straw, peanut hulls or other fibrous materials. Most of the poultry litter is from broiler production. The litter may be from one crop of broilers or accumulated over several crops of birds. The litter usually contains 20 to 25% moisture.

Poultry litter is fed mainly to beef cows and stocker cattle. Little, if any, is fed to fattening cattle. Substantiated amounts are fed in important broiler-producing states. In Virginia, it is estimated that 20 to 25% of the litter is fed. In the U.S. 5.6 million tons of litter dry matter are produced per year. If 20% of the litter is fed, over one million tons are fed per year.

^a Presented at FDA Public Hearing, Kansas City, MO, October 30, 2001, on animal feeding regulation "Animal Proteins Prohibited in Ruminant Feed"--Code of Federal Regulations, Title 21, Part 589.2000.

Research on feeding poultry litter has been conducted since the 1950's. We started research at Virginia Tech in 1963. We have studied nutritional value, performance of cattle fed litter, animal health aspects, quality of animal products, and residues in animal products.

Broiler litter contains 25 to 50% crude protein and 55 to 60% TDN, dry matter basis, and is rich in essential minerals. Thus, the nutritional value is similar to or higher than good quality legume hay. Performance in beef cattle fed broiler litter has been similar to cattle fed conventional feeds.

An important aspect is the effect of feeding animal wastes on quality of animal products. In different experiments it has been found that feeding broiler litter did not adversely affect carcass quality. Furthermore, feeding the litter did not affect taste of the meat.

Processing of poultry litter is necessary for destruction of potential pathogens, improvement of handling and storage characteristics, and maintenance or enhancement of palatability. The main processes which have been used are ensiling and deep stacking. Dehydration, with or without pelleting, is also a satisfactory process if the cost is not too high.

No documented toxic effect of cattle fed poultry litter has been reported. Copper toxicity has been documented in sheep fed broiler litter. However, the problem would not be severe in cattle since they are not as sensitive to high dietary copper. In fact, we conducted an experiment in beef females fed diets containing high levels of litter with high copper levels during the winter feeding period for 7 years. No signs of copper

toxicity were seen. Liver copper was increased in the spring in cows fed poultry litter, but the levels decreased in the fall after the grazing season.

Poultry litter is a potential source of pathogenic microorganisms. However, a recent report in which 86 samples of poultry litter obtained in Georgia were tested for pathogenic microorganisms indicated that even prior to processing, the presence of pathogens is not a serious problem. No *Salmonella* or *E. coli* 0157/H7 was isolated from any of the 86 samples. Nevertheless, poultry litter should be processed prior to feeding.

Incidents of botulism caused by *Clostridium botulinum* have been reported in cattle fed poultry litter in some countries. This problem, in all cases, was caused by the presence of poultry carcasses in the litter. However, no such problems have occurred in the U.S. Good management, including exclusion of dead birds from the litter, and appropriate processing will prevent this problem. There are no reports showing agent(s) causing BSE in poultry litter.

With modest withdrawal periods, no objectionable residues in meat have occurred from cattle fed poultry litter. Mycotoxins pose no greater problem in poultry litter than in conventional feedstuffs. No evidence has been obtained of pesticide residues in animal tissues from animals fed poultry litter. No residues of heavy metals were detected in the meat and liver from cattle fed poultry litter after a 1-day withdrawal. Medicinal drugs may be found in litter if the drugs were included in the diet of chicks. However, after a 5-day withdrawal, there were no residues of the drugs.

Most states follow the Association of American Feed Control Officials (AAFCO) model regulation for processed animal wastes. In other states the regulations are similar to the AAFCO regulation. The salient points of the AAFCO regulation are: 1) the waste

must be processed so it will be free of pathogenic organisms, 2) if the waste does not contain drug residues, no withdrawal period is required and the waste can be fed to any class of animals, 3) if the waste contains drug residues, a 15-d withdrawal is required prior to slaughtering animals.

The question concerning BSE in feeding poultry litter was addressed by the FDA in July, 1998 (2) Code of Federal Regulations (CFR) 589.2000) in Guidance for Industry #76. The agency (FDA) responded as follows to the question: Can chicken litter be fed to cattle if the poultry might have been fed prohibited material? The answer: “Yes. The FDA has no evidence that the agent that causes BSE would survive the chicken intestinal tract. FDA expects the states to require recycled animal waste to conform to the definitions promulgated by the Association of American Feed Control Officials (AAFCO) as published in its official publication and as described in its ‘Model Regulations for Processed Animal Waste Products as Animal Feed Ingredients.’ Under the AAFCO Model Regulation, in order for this product to be used in a commercial feed, it must be registered/licensed within a State, and be assayed periodically for *Salmonella* and *E. coli* bacteria, heavy metals, pesticides, drugs, parasitic larva or ova, and mycotoxins.”

The question may be asked, “Why do beef cattle producers feed poultry?” As stated above, if processed appropriately, feeding poultry litter is a safe practice. Usually, it is economical to feed poultry litter. Using present prices for conventional feeds, poultry litter is worth about \$100 per ton, based on its nutritional value. Usually, the price of poultry litter is \$10 per ton. Even after transporting the litter 200 miles, the total price of the litter, including transportation, is about \$30 per ton. Another advantage of

feeding poultry litter is that it is a good substitute for hay, especially during periods of hay shortage due to drought.

Feeding poultry litter has benefits for the poultry industry. An environmental problem is over-application of poultry litter to the soil, possibly resulting in high levels of nitrogen and phosphorus in the water supply.

In conclusion, poultry litter can be used as a feedstuff for cattle if processed properly to eliminate pathogens. Performance of animals fed the waste is similar to that of control animals if the nutrient levels are equalized. With good management and appropriate withdrawal, feeding litter does not result in harmful residues in animal products. The higher value of poultry litter as a feedstuff than fertilizer justifies transportation of the waste outside of areas where the waste is produced.

end###