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

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Docket No. 98F-0165

August 2, 2000

Re: Irradiation in the Production, Processing, and Handling of Eggs

I am writing to submit a written objection, and to request a hearing, concerning the Food and Drug Administration's (FDA's) decision to legalize the irradiation of eggs. I request that the implementation of the new regulation be delayed until such a public hearing is held.

My objections focus on the fact that the irradiation of eggs is an intervention strategy which fails to address primary causes of Salmonella enteritidis- contaminated eggs. Irradiation falsely implies that eggs are inherently unwholesome products that can only be made "clean" and "safe" by complicated nutrient depleting technologies like irradiation. In reality, (a) hens' eggs have virtually full-proof many-layered barriers against pathogens given that, in nature, hens' eggs are intended to hatch healthy chicks (CDC, 1990; Davis, 1996); and (b) chronically stressed, immunocompromised hens are laying contaminated eggs for human consumption in crowded, filthy buildings and are subjected to a variety of disease-inducing practices including stressful lighting programs and the intentional starvation of the hens known as forced molting. These practices impair hens' immune systems, predisposing them to Salmonella infection. Irradiation may simply mask these primary causes of Salmonella enteritidis (SE) in eggs.

#### **Objections to Irradiation of Eggs**

Both government and industry point out that irradiation of eggs cannot substitute for sanitation, or for recommended packaging, refrigeration, cooking, and serving of eggs: "Irradiation of fresh shell eggs at the doses requested in the petition will reduce, but not entirely eliminate, microorganisms in eggs," according to the Federal Register, July 21, 2000. Moreover, these microorganisms can grow back from a few to many despite radiation. Notwithstanding, irradiation has been approved as a compensation for poor sanitation and pathogen-promoting economic practices at the farm level and as a compensation for the fact that hens used by the egg industry are pathologically susceptible to infected ovaries and oviducts from a microorganism whose normal habitat is the intestinal tract. It appears that for the egg industry, an attractive feature of irradiation is its ability to extend the shelf life of eggs by reducing bacterial spoilage. i.e., old, irradiated, vitamin-depleted eggs can sit there a week or so longer with "fresh" stamped on the carton. Meanwhile, the most targeted pathogen, SE, has been shown to be the most irradiation resistant type of Salmonella (Brown, 1994) following exposure to approved levels of radiation of meat and eggs up to 3.0 kiloGrays (kGy).

#### **Filthy Laying Environment**

This filth includes not only the manure dripping down and encrusting the bars of the wire cages and piling up in the pits beneath the cages. It includes the toxic excretory ammonia gases from the decomposing uric acid in the manure – gases that can range dangerously between 60 and 200 ppm in crowded chicken houses (Davis, 1996). The high levels of ammonia not only permeate egg shells; they predispose the hens to immunosuppression and to airborne pathogens including Salmonella as a result of the excessive mucous that accumulates in the birds' trachea in response to the ammonia overload.

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Irradiation ignores the disease-producing filth and toxicity in the hens' environment that predispose them and their eggs to Salmonella enteritidis in the first place (Davis, 1996).

### **Stressful Lighting Programs**

Fiftytwo weeks of 15-17-day lighting schedules (mimicking the longest days at the peak of summer) force commercial laying hens to lay an abnormally large number of eggs based on the fact that, in nature, egg-laying is hormonally synchronized with the lengthening and shortening of days (North & Bell, 1990). The harsh artificial lighting schedule is a primary cause of immunosuppression in the hens, making them susceptible to Salmonella infection (Smith, 1994). Irradiation does not address this immunosuppressive, pathogen-inducing practice but, rather, encourages it to continue.

### **Forced Molting (Prolonged Starvation of Hens)**

Forced molting is a starvation practice employed by the U.S. egg industry to manipulate egg laying and the economics of production. It involves the removal of ALL food from hens used for commercial egg production for 5 to 14 days (typically 10 to 14 days) to manipulate the hormones responsible for egg production and feather cover. Forced molting is designed to force the birds to lose 25 to 30 percent of their body weight, particularly the abnormal fat which accumulates in their oviducts from lack of exercise and related stresses of confinement.

According to the US Department of Agriculture, "[E]xtended starvation and water deprivation practices lead to increased shedding of Salmonella enteritidis (Se) by laying hens subjected to these practices" (Stolfa, August 21, 1998). USDA further states: "There is epidemiologic evidence which associates [forced] molting with higher prevalence of SE in flocks. Molted SE-positive flocks also seem to produce SE-positive eggs more frequently than their non-molted counterparts."

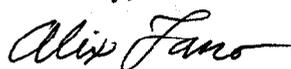
Forced molting has been shown, in both laboratory and field studies, to increase hens' susceptibility to Salmonella enteritidis infection. Yet despite scientific documentation showing the link between forced molting and SE infection of hens and their eggs, including the USDA Farm Animal Well-Being Task Group Meeting documents of July 21, 1998, the FDA has failed to take action (Troxell, September 30, 1999).

The FDA has ignored objections to forced molting, while granting Edward S. Josephson's petition to irradiate eggs, although, according to a News Release published by the health research group Public Citizen, on July 24, 2000, radiation "treatment" of eggs will deplete vitamins, disrupt proteins, and mask factory farm filth. Public Citizen says in its News Release that "The request to irradiate eggs was made by Edward Josephson, who during the 1960s and 1970s oversaw the U.S. Army's food irradiation headquarters in Massachusetts, where dozens of studies revealed serious health problems in lab animals that ate irradiated food, including premature death and cancer."

### **Conclusion**

I request that the FDA delay implementation of its regulation and hold a public hearing on its proposal to legalize the irradiation of eggs. I object to the fact that the FDA refuses to regulate practices that predispose hens and their eggs to SE in the first place, while falsely assuring consumers that irradiated eggs will be safe and nutritious. In addition to the filthy buildings in which the eggs destined for irradiation are laid by Salmonella-disposed, inhumanely treated hens, irradiation will be added to these eggs, along with vitamin depletion and unappealing visual and textural characteristics. Moreover, irradiation will not reduce the threat of Salmonella contamination, which can cause acute and sometimes fatal illnesses in babies, the elderly, and those of all ages with susceptible immune systems.

Sincerely,



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