

Abstract for WEF Conference:

Survey of Wastewater Treatment Practices and Experiences in the U.S. Poultry Processing Industry

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The current economic and environmental impact of the poultry processing industry in the United States is staggering. During the 2000 calendar year, over 200 U.S. poultry slaughter and further processing plants produced almost 650 million pounds of ready-to-cook (RTC) chicken each week. Nearly 167 million broilers are processed in the U.S. each week, to meet the ever-growing international demand for chicken products. In America alone, the per capita annual consumption of poultry products has climbed to an all time high of 81 pounds, far outpacing the consumption of beef (69 pounds) and pork (52 pounds). Due to increasing product demand, water use (and subsequent wastewater generation) by the U.S. poultry processing industry continues to grow, as does the industry's overall environmental impact. A typical poultry processing plant utilizes 7.5 gallons of water to process each bird, which results in the generation of 1.25 billion gallons of wastewater each week or a staggering 65 billion gallons of wastewater each year. The phenomenal growth of the U.S. poultry processing industry has been accompanied by increasing governmental regulation on how each company operates their business on a daily basis. From the water conservation reversing effects of the food safety HACCP (Hazard Analysis Critical Control Point) program, to the ever more stringent limits placed on process wastewater discharge, the U.S. poultry processing industry must constantly monitor, modify, and reevaluate facility operation and maintenance. Starting 2001, the U.S. Environmental Protection Agency (EPA) has embarked on a two (2) year process aimed at the development of Effluent Limitation Guidelines (ELGs) for the U.S. meat products industry. The project will involve the completion of extensive questionnaires by companies within the meat products sector, and the collection of data from typical meat products plants throughout the U.S. The final ELGs are scheduled for publication by December 2003. This paper reports on the results of a survey completed by the Engineering Outreach Program at the University of Georgia, and funded by the U.S. Poultry & Egg Association, aimed at gathering vital information on the relationships between production types and volumes, water use and subsequent wastewater generation within U.S. poultry processing facilities. The goals of the survey were to collect, compile and analyze data and develop a typical process wastewater profile for U.S. poultry processing plants based on facility type and geographically acceptable wastewater discharge guidelines. This paper also contains comprehensive and usable information based on the survey data that can be used within the industry for wastewater treatment system design and for processing plant comparisons based on operation type; and used outside the industry to provide real data for communicating with federal, state and local environmental regulatory agencies.