

Willingness to Pay and Willingness to Accept Differences among Broiler Producers in Louisiana

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Like many other states located in the southeast United States, broiler production comprises the largest animal agricultural enterprise in Louisiana. With growing numbers of broilers in the region annually, environmental problems associated with excessive litter production and disposals have been a serious concern. Although carefully devised land application of litter is one of the ways to reduce litter related pollution, the other effective way may be to ask farmers to curtail their current numbers of broilers in the farm. Alternatively, it may be possible to allow farmers continue their operations in lieu of an annual tax that would cover the abatement cost of cleaning water pollution resulting from broiler litter application. However, many broiler producers believe that they have the right to produce broilers continuously. Therefore, measurement of compensation values in the face of lack of clear definition of property right may not be unique. This study adopts a unique method of eliciting bids from broiler producers with the assumption that broiler producers do or do not have the property right to continue producing broilers in their farm. The literature indicates that substitution effect, income effect, endowment effect, and information effect are the major variable causing the discrepancies between these two measures of compensation. The objectives of this study are a) to assess the willingness to pay and willingness to accept measure of compensations stated by broiler producers for water quality improvement through broiler number reduction, and b) to find the variables affecting the divergence in WTP and WTA measure of compensations.

Data were collected from a mail survey sent to all broiler producers in Louisiana following the tailored designed method (Dilman, 2001). The survey contained three sections: Broiler manure production and use, willingness to pay and willingness to accept, and Demographic and farm related characteristics. There are altogether 575 broiler producers in Louisiana State. In order to meet the objectives of the study, a statewide mail survey of the entire population of Louisiana broiler producers was conducted in March, 2004. First, a pilot survey of the farmers in broiler production region is conducted. The information obtained from the survey is used in designing bid values and questionnaire format in the final version of the survey. The bid values were stated in a multiple bound dichotomous choice format. The final version of the survey was sent to broiler producers using a split sample method. Half of the farmers received survey with a cheap talk method and the other half received the version without the cheap talk method. The first mailing included a cover letter stating the rationale for conducting the survey, with emphasis on the strict confidentiality of the individual responses; the 12 pages questionnaire on the use of conservation practices and goals of Louisiana broiler producers; and postage-paid return envelope. Those who did not respond to the survey were reminded by post card two weeks after the first survey and again by the second round of mail survey after three weeks of the first survey. Parish agents and farmers are notified about the mailing of the survey

personally in a group meeting in parish level extension offices. System of equations with one for each WTP and WTA are estimated using a seemingly unrelated regression. Individual WTP and WTA equations are estimated using a nested tobit model.

Cheap talk method has been used in literature to reduce hypothetical bias in mail CV survey. We incorporated variables that measure the proxy of endowment effect, substitution effect, information effect, and income effect in regression analysis. Most broiler producers indicated higher willingness to accept for reducing a certain number of broilers, while they choose very low value on willingness to pay amount. Summaries of this evidence show that mean WTA values are typically between 5 to 20 times higher than mean WTP values, with the ratio occasionally reaching in 100. In this case, disparities of this magnitude appear to contradict standard theory, and may have some potentially worrying and controversial implications. It was found that the disparities between WTP and WTA are affected by number of broiler houses (endowment effect), profit from broiler operation (income effect), number of other alternative operations (substitution effect), and knowledge that regulations are eminent if they were to continue broiler production (information effect), and risk preference of respondent. Results also indicated that cheap talk method was significant in reducing the discrepancies between WTP and WTA.

This study is the first field level study to collect information on WTP and WTA from the same respondent. Our results show that farmers provided very high WTA value to reduce broiler production where as very low WTP to continue operating a broiler enterprise. Although the discrepancy between these two measures of compensation is high, the value from WTP can be used in assisting policy formulation to maintain water quality in the region.