

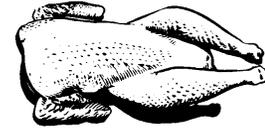


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## ***PROCESSING TIP . . .***

### **THE EFFECT OF COPPER AND ZINC IN LITTER ON TOTAL DAILY MAXIMUM LOAD (TMDL) IN PROCESSING WASTEWATER**

Total Maximum Daily Load (TMDL) of metals discharged in wastewater can cause problems for processors. Copper and zinc can be metals of concern in meeting TMDLs. A significant source of these metals can be the manure from the live haul trucks, as poultry manure can contain 300-600 ppm copper and 200-300 ppm zinc. If this manure is washed from cages and trucks at the processing plant, excessive copper and zinc can be discharged in wastewater.

There are two strategies that can prevent excessive copper and zinc from entering the wastewater.

1. Dry clean the trucks and cages, and collect manure in the hanging area so that metals in the experiment do not enter the wastewater. Trucks can be swept with brooms and the manure collected and hauled away for land application. The manure that remains in the live haul area and the hanging area can likewise be collected with mechanical devices such as vacuums. Any feasible method which excludes manure from wastewater can be explored. A processor was out of compliance on ammonia by approximately 10 mg/L. Manure is also an ammonia source in wastewater. By preventing manure from entering the waste stream they came into compliance.
2. Consider reducing copper and zinc in the withdrawal ration, or use a more available source, so that it's content is greatly reduced in manure at the processing plant.

Although not yet a widespread problem, processors who may be experiencing TMDL problems may want to try these suggestions to solve the problem.

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#### **PUTTING KNOWLEDGE TO WORK**

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