



## **USDA-CSREES 2006 National Water Quality Conference**

### **Assessment of the Use of Cattail (*Typha latifolia* L.) as a Filter for Storm Water Run-Off Using Re-c**

The United States Environmental Protection Agency introduced the Phase II Storm Water requirements in an effort to address the non-point source pollution associated with urban run-off. Pine Bluff, White Hall, UAPB and portions of Jefferson County are affected by these requirements due to their population being greater than 50,000 people. Some of the pollutants that can be transported by storm water run-off are: oil and grease, heavy metals, polychlorinated biphenyls (PCBs), excess nitrogen (N) and phosphorus (P).

A study was designed to evaluate the ability of tire chips and compost media to filter run-off before it reaches Lake Pine Bluff. Five gallon plastic containers were used to create mesocosms filled with media for growing cattail (*Typha latifolia* L.). Three different growth media were used in this study. Ten mesocosms each were filled with tire chips, composted yard waste and a 50/50 mixture of compost and tire chips. Locally harvested cattails were planted in each container, with a minimal amount of soil left on the roots. Water was collected from Brumps Bayou, a major tributary to Lake Pine Bluff and the Arkansas River to fill the mesocosms. The filtering effects of both growth media and the plant growth will be measured by collecting and analyzing composite water samples from each treatment.

Samples will be collected two times throughout the study and analyzed for oil & grease, PCBs, heavy metals and total N and P. The results of these samples will be compared to a baseline of samples collected from Brumps Bayou to determine if an improvement in water quality has taken place.

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