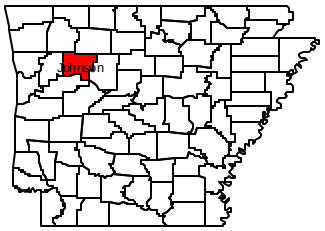


Water Quality in Jo

Blair Griffin, County Extensio
– Staff Chaiman


Little Piney River

INTRODUCTION

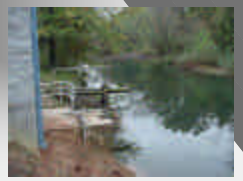
Some key points of fertilizing pastures with poultry litter includes:

- Forages utilize two times as much nitrogen and potash as phosphorus.
- Unused phosphorus builds up in the soil.
- Excess phosphorus has the potential to runoff into streams and watersheds.
- Runoff creates the potential for algae blooms.

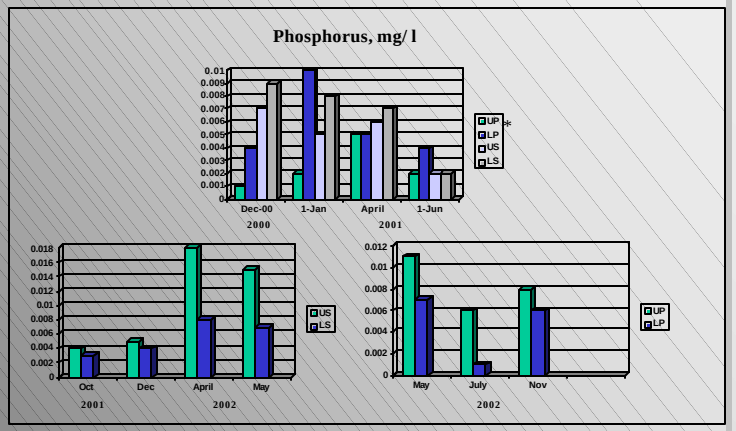
The potential loss of P in runoff from livestock operations continues to create water quality concerns. In fact, the State of Oklahoma has imposed an in-stream P concentration limit 0.037 mg / l in several streams that originate in Arkansas. Although streams in Johnson County do not flow into Oklahoma and would most likely would not have to conform to this limit, many livestock producers in Johnson County what to know more about the water quality locally in Johnson County. In response, we initiated a nutrient monitoring demonstration in two local streams, Spadra Creek and Little Piney Creek. This poster reviews the monthly water quality data and compares it to the 0.037 mg/ l Oklahoma standard.

APPROACH

Water samples were collected once a month (Following the sampling protocol of the University of Arkansas Water Testing Lab) for the last two years at the upper and lower reaches of both Spadra Creek and Little Piney Creek. At the lower reach of Spadra Creek, samples were taken near the drinking water intake for Clarksville, the Johnson County Seat. Samples were analyzed for nitrogen and Phosphorus. Samples were analyzed by the University of Arkansas Water Testing Lab.

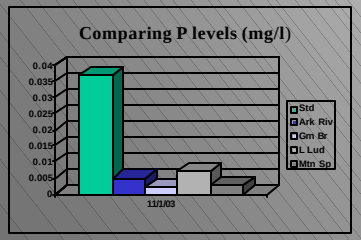


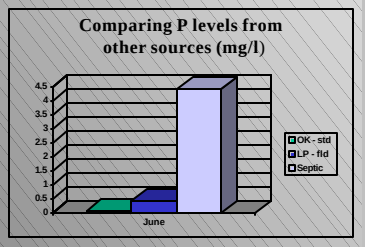
RESULTS



*UP = Upper Little Piney Creek
LP = Lower Little Piney River

US = Upper Spadra
LS = Lower Spadra





CONCLUSIONS

Phosphorus levels in Spadra Creek and Little Piney Creek never exceeded the 0.037 mg / l standard set in Oklahoma during the duration of monitoring. However, P levels did fluctuate during the sampling period.

While the sources of P remain unknown, there are several livestock operations in these watersheds. While this data would suggest that P levels are well below established standards for other states, livestock operations will need to continue to do a good job of minimizing P losses from their operations to lessen environmental liability.

We employ a variety of educational programs locally to assist producers with nutrient management needs. We continue to utilize our traditional programs such as soil, litter, and forage testing, forage variety testing, as well as developing new programs to meet emerging needs. For instance, new regulations for poultry operations have been established that will affect the application and management of nutrients. We will providing education programs that will help poultry producers comply with new rules.