

GLOBAL PARTNERSHIP ON NUTRIENT MANAGEMENT

BMP Case Study

Overview

Name: Riparian Buffer Strips Perform Well in Iowa Study

Location/Terrain: Bear Creek, Story County, Iowa

Crop(s): Nonspecific cropland near water sources

Nutrient(s): Nitrate and Phosphorous

Rationale: Use riparian buffer strips to reduce nitrate and phosphorous runoff.



Issue(s) of Concern/Challenges:

Nutrient overloading from crop fields to local water sources.

Practice Objectives:

Test the viability of riparian buffer strips to remove nutrients from crop runoff water.

Practice Description:

A saturated buffer was installed to catch tile line water before it is released into waterways. The system uses a shallow lateral line with control structures that raise the water table and slow outflow, allowing the buffers to naturally remove nutrients such as nitrate and phosphorous.

Outcomes:

The system curbed over half of the immediate tile line outflow into waterways. It removed 100 percent of the nitrate from 60 percent of the field tile flow.

Significance:

The outcomes of this study were much higher than predicted (it was originally expected to divert just 10 percent to 15 percent). It has a lot of promise in the right situations.



For more information, please contact Chuck Chaitovitz a chuck.chaitovitz@gef.org or visit www.gpa.unep.org/index.php/global-partnership-on-nutrient-management.

